Listing of Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

1 – 5 (Cancelled)

6. (Currently amended) A method for inter-cluster communication in a processing system that employs register permutation comprising,

where providing clustered functional units have and the clustered functional units having at least one global register file and at least one local register file;

partitioning the at least one global register file is partitioned into at least one sub-register file, wherein the at least one sub-register file can map maps to at least two clustered functional units respectively;

mapping each of the at least one local register file maps to one of the clustered function units, wherein establishing a mapping relationship between a global register file, a local register file, and a clustered functional unit; and

the clustered functional units exchange exchanging data by permutation permutations of the sub-register files of the at least one global register file through setting crossbar switches, without transferring the data, wherein the permutation permutations maps mapping the sub-register files of the at least one global register file to the clustered functional units. and the data exchange is a direct data access in accordance with the mapping relationship.

7. (Previously presented) The method for inter-cluster communication that employs register permutation according to claim 6, wherein the permutation dynamically changes port mapping between the sub-register files of the global register files and the clustered functional units.

8. (Previously presented) The method for inter-cluster communication that employs register permutation according to claim 7, wherein the port mapping is implemented in accordance with a predefined routing structure.

9. (Previously presented) The method for inter-cluster communication that employs

register permutation according to claim 6, wherein the size of the register files and the number of the said ports are both scalable.

10. (Previously presented) The method for inter-cluster communication that employs register permutation according to claim 6, further comprising any number of cluster structures.